

# COLLABORATION QUARTERLY

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First Quarter 2016

## Inside this issue:

Digital Age: Video Connections & Cables	1
Project Report: HQ-7S40	2
CS Spotlight: Camille Sevier	2
Gallery	3
News & Notes	3

## Digital Age: Video Connections & Cables

Today there are many ways to connect your digital devices to a display. Figuring out these connections can get a little bit confusing. Here is a little primer to help you understand and recognize the type of digital video connection you may encounter:

### DVI- (Digital Video Interface)



DVI is the earliest, widely used digital connector. DVI is unique in that the connector can support

digital or analog video signals. Used mostly by computers, DVI can also support HDCP (High-Bandwidth Digital Content Protection). DVI is slowly disappearing but may still be used on desktop computers, video codecs, and older displays. DVI signals are limited in distance, due to limitations of physical cable (typically under 50').

### SDI- (Serial Digital Interface)



Used primarily in broadcasting applications, SDI can support HD and 3D content over coaxial cable. This connector may be present on some computers, streaming devices, and professional grade displays.

### HDMI- (High-Definition Multimedia Interface) Ubiqui-

tous in most present day consumer electronics, HDMI is the most widely used digital video interface.



It uses HDCP and can support 3D and 4K video, digital audio, as well as carry Ethernet and control signaling over the same cable. Many adapters exist to convert other digital video signals to HDMI. Distance is limited similarly to that of DVI.

### DisplayPort- DisplayPort is one of the newest connectors that carries digital video and audio signals. Fast



becoming a standard for computers, DisplayPort features a locking connector, AES encryption as well as HDCP, and can support up to 8K video resolution. DisplayPort can also be "daisy-chained" providing video for one to three monitors from one connection port on the video source.

### Mini DisplayPort or Thunderbolt-



The Mini DisplayPort or Thunderbolt connector is often found on small laptops, tablets, or smartphones. Sporting the same

specifications as HDMI, the Mini DisplayPort connector is gaining in popularity and consumer familiarity.

### HDBaseT-



Sending high definition video, digital audio, power and control signals over a single Category

(Ethernet) cable, HDBaseT offers a lot of advantages when it comes to digital applications. It can be transmitted over much longer distances than DVI or HDMI, can support up to 4K video over a single cable. The familiar form makes cable installation and termination much easier. To ensure good performance, however, care is required when running the cables. Compatible encoders and decoders are required.

Collaboration Services (CS) is familiar with and utilizes all of these video signals when appropriate. Our engineers and Customer Site Representatives will be happy to answer any questions and help you to make the right decisions when it comes to digital video.



*“New fiber extensions between the SOC and 7S40 to allow for two-way transmission of audio and video sources between the SOC”*

## Project Report: HQ-7S40

In early February, Collaboration Services upgraded the Headquarters HEO (Human Exploration and Operations) conference room 7S40. The room offers video conferencing, audio and multimedia capabilities. These systems are integrated together and controlled from an AMX digital switching and control system with a panoramic 20” touch panel. Three video conferencing cameras with microphone activated tracking are connected to a LifeSize HD video codec for video meetings. Collaboration Services installed new table pop-ups with HDMI, VGA, power



and three quick display buttons tied to the room displays. Auxiliary HDMI connections were added to the cubby in the conference table for sending and receiving video to an additional device. Three 80” flat panel displays, a Blu-ray player and HD TV Tuners comprise the main additional components of the multimedia system. In addition to these basic multimedia devices, a multi-graphic processor that allows up to four video sources to be displayed on a single display was installed. This feature will allow the monitoring of several video sources on one screen. 7S40 can also be used as an extended backup for the HQ SOC (Space Operations Center). New fiber extensions between the SOC and 7S40 allow for two-way transmission of audio and



video sources between the SOC and 7S40 using AMX fiber encoders and decoders. With these extensions in place, 7S40 can be configured as an overflow room for SOC activities. In case of concurrent events, or equipment failure in the SOC, this room can also function as a “mini-SOC” with a few adjustments from the AMX control panel. CS is honored and pleased to provide audio visual services to the Human Exploration and Operations Directorate.



**NTC Specialist:**  
**Camille Sevier**

## Collaboration Service Spotlight: Camille Sevier

After a summer job working as a technical writer in support of the ISS program, college student Camille Sevier became passionate about working in support of NASA. Upon graduating from Alabama A&M University, Ms. Sevier joined MSFC Television Services as a TV producer. Her experiences both in front of, and behind the camera gave Camille valuable skills and the ability

to manage projects with tight deadlines and real-time demands. In 2012 she joined the NASA Teleconferencing Center (NTC) as an analyst, discovering a great love for customer service. In addition to assisting customers in meeting their conferencing needs, Camille also provides continuous monitoring of all security assessment and authorization in support of

the NASA video conferencing network. Though she enjoys the technical aspects of her job, customer service remains her number one focus.

When not hard at work, Ms. Sevier enjoys leadership in her church's music and drama ministries. She also enjoys playing piano, composing music and acting.

## CSO/NICS

## Center and Associated Sites

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## News and Notes

Completed Projects Gallery  
First Quarter 2016

JSC-20-2041



GRC-3-7



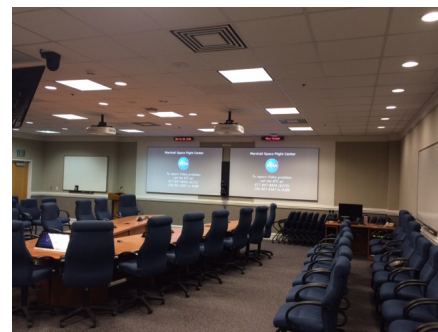
MSFC-WYNN-3137



HQ-8E40



HQ-7540



MSFC-4203-1201

## On the Horizon

## 2nd Quarter 2016

- KSC OSBI refreshes
- JSC-4N-3008 & 3065
- GRC-142-185
- KSC-MOSB-180

## And Beyond..

- HQ-ECC
- WSTF-100-135
- GSFC-Core
- WSTF-Core
- MAF-Core

- Collaboration Services is managing an average of 50 CRQs based on current and forecasted projects through the end of FY 2016.
- Collaboration Services transitioned the management of over 300 conference rooms located at MSFC that were formerly on the MITS Contract.
- Collaboration Services is currently addressing the possibility of content management for 508 compliance.
- Congratulations to Kelson Hale as he has advanced his career by taking on the position of Collaboration Services Integration Engineer.